Marion Bussemakers.

Society For Basic Urologic Research

Fall Symposium

December 7-10, 1995

The University of North Carolina at Chapel Hill
School of Medicine
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SOCIETY FOR BASIC UROLOGIC RESEARCH
1995 Fall Meeting Abstract Form

Mail the original and 3 copies to Dr. James L. Mohler, Division of Urology, CB #7235, University of North Carolina School of Medicine, Chapel Hill, NC 27599-7235.

Instructions: Begin abstract with title in all capital letters, followed by authors (first and middle initials and last names). Begin text on new line, indented 2 spaces.

DD3: A NEW PROSTATE SPECIFIC MARKER, OVEREXPRESSED IN PROSTATIC TUMORS.

Marion JG Bussemakers, Adrie van Bokhoven, Ning Ru, William B Isaacs**. Urology Research Laboratory, University Hospital Nijmegen, The Netherlands, *Brady Urological Institute, Johns Hopkins Hospital, Baltimore, Maryland

In order to identify genes differentially expressed during prostate cancer development, we applied the technique of differential display analysis using mRNA from normal, benign hyperplastic and tumor prostatic tissue from the same patients. We thus identified DD3, which on Northern blot detects two transcripts that are specifically expressed in human prostatic tumors whereas no expression of these transcripts is found in normal or BPH tissue. Nucleotide sequence analysis of DD3 did not reveal an open r ading frame nor did we find homology with any known gene. Isolation of additional DD3-related cDNA and genomic clones allowed a further characterization of the transcription unit of DD3 and revealed that alternative splicing occurs, which may be the mechanism giving rise to the differently sized transcripts. Using the DD3-related genomic clones as probes, we were able to map DD3 to chromosome 9q21-22, a region which (by CGH) was shown to be amplified in a number of prostatic tumors, suggesting that overexpression of the gene may be a result of gene amplification. Upon developing primers for RT-PCR, we were able to show that DD3 expression is very prostate specific since no DD3 transcripts could be detected in normal human artery, breast, bladder, colon, duodenum, heart, kidney, liver, lung, pancreas, seminal vesicles, skin, spleen or testis. Also in the human prostate cancer cell lines LNCaP, Du145, PC3 and TSU no DD3-related PCR product could be amplified. We are currently investigating whether we can use RT-PCR analysis of DD3 to detect prostate cancer cells in the peripheral blood of patients with metastatic disease. Furthermore, we will try to gain insight in the function of DD3 and its role in prostate cancer development.

Deadline for submission: postmarked by November 3, 1995
(each active member can sponsor only one abstract)

20 travel awards are available this year and will be made to the most outstanding abstracts. Participants will be notified by November 24, 1995 of abstract status and travel awards.

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Date: 03-11-95 Signature: [signature]